

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-28 are pending in the application. Claims 1, 4, 8, and 11 are amended, and support for the amendments is found in the Applicants' specification at page 9, line 11 to page 10, line 2; page 12, lines 2-13; and Figure 5b. Claims 14-20 are withdrawn from consideration. Claims 21-28 are newly added, and support for newly added Claims 21-28 is found in the Applicants' specification at least at page 14, line 25 to page 15, line 6. It is respectfully submitted that no new matter is added by this amendment.

In the outstanding Office Action, Claims 1-3, 5-7, 9, 10, 12, and 13 were rejected under 35 U.S.C. § 102(b) as anticipated by Davis et al. (U.S. Patent No. 5,668,397, hereinafter Davis); and Claims 4, 8, and 11 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants thank the Examiner for the early indication of allowable subject matter in Claims 4, 8, and 11. Accordingly, Claims 4, 8, and 11 have been rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 4, 8, and 11 have also been amended to correct minor translation errors. It is respectfully submitted that Claims 4, 8, and 11 are now in condition for formal allowance, and it is respectfully requested that the objection to Claims 4, 8, and 11 be withdrawn.

Briefly recapitulating, amended Claim 1 recites a semiconductor device having a semiconductor layer, wherein the second impurity atom is "arranged in a nearest neighbor lattice site location for the first impurity atom." The semiconductor device as recited in

amended Claim 1 improves the activation rate of an impurity atom and suppresses diffusion of that impurity atom.¹

Davis is directed to a fabrication process for dielectrically isolated high frequency complementary analog bipolar and CMOS transistors.² Figure 1 of Davis illustrates forming heavily doped regions 14 and 16 with high concentrations of boron and phosphorous having smaller atomic radii than silicon, and then adding to the heavily doped regions 14 and 16 impurities having larger atomic radii, such as arsenic, antimony, or germanium, to offset the effects of boron and phosphorous on the lattice.³ Davis further teaches that the arsenic implants should be one tenth to two tenths the boron dose used to form the buried regions 16B and 16D.

However, Davis fails to disclose that the second impurity atom is “arranged in a nearest neighbor lattice site location for the first impurity atom,” as recited in amended Claim 1. Therefore, Davis does not disclose each and every element of amended Claim 1, and accordingly, it is respectfully requested that the rejection of Claim 1 under 35 U.S.C. § 102(b) be withdrawn. Further, it is respectfully submitted that dependent Claims 2, 3, 5-7, 9, 10, 12, and 13 are allowable based at least one their dependent recitation of the above-identified feature of amended Claim 1, and it is respectfully submitted that the rejection to dependent Claims 2, 3, 5-7, 9, 10, 12, and 13 under 35 U.S.C. § 102(b) be withdrawn.

New Claims 21-28 depend from amended independent Claims 1, 4, 8, and 11, and support for newly added Claims 21-28 is found in the Applicants’ specification at least at page 14, line 25 to page 15, line 6. Therefore, it is respectfully submitted that new Claims 21-28 are in condition for formal allowance based at least one their dependent recitation of

¹ Applicants’ specification, page 3, lines 21-24.

² Davis, Abstract.

³ Davis, column 2, lines 27-32 and column 4, lines 25-39.

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the features of amended independent Claims 1, 4, 8, and 11 which were indicated by the Examiner as containing allowable subject matter.

Therefore, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for formal allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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